UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,077	01/30/2004	Yoshiaki Tanaka	0102/0237	6118

21395   7590   04/30/2008

LOUIS WOO
LAW OFFICE OF LOUIS WOO
717 NORTH FAYETTE STREET
ALEXANDRIA, VA 22314

EXAMINER
ZHAO, DAQUAN

ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
04/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *20 November 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *40-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *40-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/30/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☒ Certified copies of the priority documents have been received in Application No. *09/195,100*.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/28/2007*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Terminal Disclaimer

1.   The terminal disclaimer filed on 11/20/2007 disclaiming the terminal portion of any

patent granted on this application which would extend beyond the expiration date of Patent

number 6,738,561 has been reviewed and is accepted. The terminal disclaimer has been

recorded.

2.   The terminal disclaimer filed on 11/20/2007 disclaiming the terminal portion of any

patent granted on this application which would extend beyond the expiration date of patent

application number 10/767,076 has been reviewed and is accepted. The terminal disclaimer has

been recorded.

Double Patenting

3.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection
is appropriate where the conflicting claims are not identical, but at least one examined
application claim is not patentably distinct from the reference claim(s) because the examined
application claim is either anticipated by, or would have been obvious over, the reference
claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re
Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225
USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re
Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may
be used to overcome an actual or provisional rejection based on a nonstatutory double patenting
ground provided the conflicting application or patent either is shown to be commonly owned
with this application, or claims an invention made as a result of activities undertaken within the
scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
3.73(b).

4.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1-4, respectively, of U.S. Patent No. 7,254,103.

Although the conflicting claims are not identical, they are not patentably distinct from each other

because the instant application claims are broader in every aspect than the patent claims and are

therefore an obvious variant thereof.

5.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1-4, respectively, of U.S. Patent application No.

10/767,073. Although the conflicting claims are not identical, they are not patentably distinct

from each other because the instant application claims are broader in every aspect than the patent

claims and are therefore an obvious variant thereof.

6.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1-4, respectively, of U.S. Patent No. 7,260,045.

Although the conflicting claims are not identical, they are not patentably distinct from each other

because the instant application claims are broader in every aspect than the patent claims and are

therefore an obvious variant thereof.

7.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,980,501, in view of Hoshi

et al (US 5,301,040).

For claim 40 of the instant application, claims 1-5 of the U.S. Patent 6,980,501 teaches a digital signal recording medium having an area storing an audio title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio being in a front channel group having multiple channels, the second original audio signal being in a rear channel group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having a quantity common to the channels in the second channel group; The audio title set (ATS) including data representing the first quantization word length and first sampling frequency and the second quantization word length and second sampling frequency, and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (e.g. see claims 1-5 of U.S. Patent 6,980,501) However, U.S. Patent fails to teach data representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Hoshi et al into the teaching of U.S. Patent 6,980,501 to bit shift the quantized digital data to reduce the amount of quantized data for storage efficiency and higher data process speed.

Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

8.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No 6,636,474, in view of Hoshi et al (US 5,301,040).

For claim 40 of the instant application, claims 1-5 of the U.S. Patent 6,636,474 teaches a digital signal recording medium having an area storing an audio title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio being in a front channel group having multiple channels, the second original audio signal being in a rear channel group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having a quantity common to the channels in the second channel group; The audio title set (ATS) including data representing the first quantization word length and first sampling frequency and the second quantization word length and second sampling frequency, and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (e.g. see claims 1-9 of U.S. Patent 6,636,474) However, U.S. Patent fails to teach data representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the time the invention was made to

incorporate the teaching of Hoshi et al into the teaching of U.S. Patent 6,636,474 to bit shift the

quantized digital data to reduce the amount of quantized data for storage efficiency and higher

data process speed.

Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

9.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1-5 of U.S. Patent No 6,810,003, and in view of

Hoshi et al (US 5,301,040).

For claim 40 of the instant application, claims 1-5 of the U.S. Patent 6,810,003 teaches a

digital signal recording medium having an area storing an audio title set (ATS), the audio title set

(ATS) including data representing a digital audio signal resulting from steps including (1)

quantizing a first original audio signal at a first quantization word length and a first sampling

frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal

at a second quantization word length and a second sampling frequency, and (3) subjecting the

quantization-resultant audio signal to a bit shift, the first original audio being in a front channel

group having multiple channels, the second original audio signal being in a rear channel group

having multiple channels, the first sampling frequency being assigned to each of the channels in

the first channel group, the second sampling frequency being assigned to each of the channels in

the second channel group, the bit shift having a quantity common to the channels in the second

channel group; The audio title set (ATS) including data representing the first quantization word

length and first sampling frequency and the second quantization word length and second

sampling frequency, and channel assignment information for identifying the channels in the first

channel group and the channels in the second channel group (e.g. see claims 1-5 of U.S. Patent 6,810,003) However, U.S. Patent fails to teach data representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Hoshi et al into the teaching of U.S. Patent 6,810,003 to bit shift the quantized digital data to reduce the amount of quantized data for storage efficiency and higher data process speed.

Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

10.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No 7,006,422, and in view of Hoshi et al (US 5,301,040).

For claim 40 of the instant application, claims 1-5 of the U.S. Patent 7,006,422 teaches a digital signal recording medium having an area storing an audio title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio being in a front channel group having multiple channels, the second original audio signal being in a rear channel group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in

the second channel group, the bit shift having a quantity common to the channels in the second

channel group; The audio title set (ATS) including data representing the first quantization word

length and first sampling frequency and the second quantization word length and second

sampling frequency, and channel assignment information for identifying the channels in the first

channel group and the channels in the second channel group (e.g. see claims 1-5 of U.S. Patent

7,006,422) However, U.S. Patent fails to teach data representing the quantity of the bit shift.

Hoshi et al teach data representing the quantity of the bit shift (e.g. column 8, lines 1-14). It

would have been obvious to one ordinary skill in the art at the time the invention was made to

incorporate the teaching of Hoshi et al into the teaching of U.S. Patent 7,006,422 to bit shift the

quantized digital data to reduce the amount of quantized data for storage efficiency and higher

data process speed.

Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

11.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 29-33 of U.S. Patent application No 10/648,476, and

in view of Hoshi et al (US 5,301,040).

For claim 40 of the instant application, claims 29-33 of the U.S. Patent application No

10/648,476 teaches a digital signal recording medium having an area storing an audio title set

(ATS), the audio title set (ATS) including data representing a digital audio signal resulting from

steps including (1) quantizing a first original audio signal at a first quantization word length and

a first sampling frequency, (2) quantizing a second original audio signal into a quantization-

resultant audio signal at a second quantization word length and a second sampling frequency,

and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio

being in a front channel group having multiple channels, the second original audio signal being

in a rear channel group having multiple channels, the first sampling frequency being assigned to

each of the channels in the first channel group, the second sampling frequency being assigned to

each of the channels in the second channel group, the bit shift having a quantity common to the

channels in the second channel group; The audio title set (ATS) including data representing the

first quantization word length and first sampling frequency and the second quantization word

length and second sampling frequency, and channel assignment information for identifying the

channels in the first channel group and the channels in the second channel group (e.g. see claims

29-33 of U.S. Patent application No 10/648,476) However, U.S. Patent fails to teach data

representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit

shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the

time the invention was made to incorporate the teaching of Hoshi et al into the teaching of U.S.

Patent application No 10/648,476 to bit shift the quantized digital data to reduce the amount of

quantized data for storage efficiency and higher data process speed.

     Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

12.   Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 34-35 of U.S. Patent application No 10/648,481, and

in view of Hoshi et al (US 5,301,040).

     For claim 40 of the instant application, claims 34-35 of the U.S. Patent application No

10/648,481 teaches a digital signal recording medium having an area storing an audio title set

(ATS), the audio title set (ATS) including data representing a digital audio signal resulting from

steps including (1) quantizing a first original audio signal at a first quantization word length and

a first sampling frequency, (2) quantizing a second original audio signal into a quantization-

resultant audio signal at a second quantization word length and a second sampling frequency,

and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio

being in a front channel group having multiple channels, the second original audio signal being

in a rear channel group having multiple channels, the first sampling frequency being assigned to

each of the channels in the first channel group, the second sampling frequency being assigned to

each of the channels in the second channel group, the bit shift having a quantity common to the

channels in the second channel group; The audio title set (ATS) including data representing the

first quantization word length and first sampling frequency and the second quantization word

length and second sampling frequency, and channel assignment information for identifying the

channels in the first channel group and the channels in the second channel group (e.g. see claims

34-35 of U.S. Patent application No 10/648,481) However, U.S. Patent fails to teach data

representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit

shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the

time the invention was made to incorporate the teaching of Hoshi et al into the teaching of U.S.

Patent application No 10/648,481 to bit shift the quantized digital data to reduce the amount of

quantized data for storage efficiency and higher data process speed.

Claims 41-43 are rejected for the same reasons as discussed in claim 40 above.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 40 is rejected under 35 U.S.C. 101 because claim is directed to non-statutory subject matter.

Claim 40 recites "a digital signal recording medium having an area storing an audio title set...", wherein the audio data is considered to be nonfunctional descriptive mater by the examiner.

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) ("[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.") (quoted with approval in Abele, 684 F.2d at 907, 214 USPQ at 687). See also In re

Johnson, 589 F.2d 1070, 1077, 200 USPQ199, 206 (CCPA 1978) ("form of the claim is often

an exercise in drafting"). Thus, nonstatutory music is not a computer component, and it does

not become statutory by merely recording it on a compact disk. Protection for this type of

work is provided under the copyright law.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

13.   Claims 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heo et al

(US 5,987,417), and further in view of Hoshi et al (US 5,301,040).

For claim 40, Heo et al teach a digital signal recording medium having an area storing an

audio title set (ATS) (e.g. column 31, lines 32-38), the audio title set (ATS) including at least one

audio pack storing (e.g. figures 14-15, column 16, lines 20-33, table 10b and 20) data

representing a digital audio signal resulting from steps including (1) quantizing a first original

audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a

second original audio signal into a quantization-resultant audio signal at a second quantization

word length and a second sampling frequency, and (3) subjecting the quantization-resultant

audio signal to a bit shift, the first original audio being in a front channel group having multiple

channels, the second original audio signal being in a rear channel group having multiple

channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having a quantity common to the channels in the second channel group (e.g. MPEP 2113 [R-1] recites "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The process of generating the audio is not given any patentable weight for this claim);

Said audio pack having a private header (e.g. figures 14-15, column 16, lines 20-33, table 10b and 20) including data representing the first quantization word length and first sampling frequency and the second quantization word length and second sampling frequency, and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (e.g. abstract, column 12, lines 23-36, table 19 in column 16, tables 18 a-b in column 14). However, Heo et al fail to teach data representing the quantity of the bit shift. Hoshi et al teach data representing the quantity of the bit shift (e.g. column 8, lines 1-14). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Hoshi et al into the teaching of Heo et al to bit shift the quantized digital data to reduce the amount of quantized data for storage efficiency and higher data process speed.

For claim 41, Heo et al teach a signal encoding apparatus (e.g. figure 18, device 318) comprising: means for generating information (e.g. column 12, lines 23-36); means for formatting the information into a data structure (e.g. figure 11 is the data structure for the audio, figure 17, digital audio formatter 216); wherein the data structure has an area containing an audio title set (ATS) including data representing a digital audio signal resulting from steps including (e.g. column 31, lines 32-38, audio title) (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency (e.g. column 16, table 19 and column 15, lines 11-32, sampling frequency 48KHz, 96 KHz and 192 KHz has word length of 16 bits, 20 bits and 24 bits), (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency(e.g. column 16, table 19 and column 15, lines 11-32, sampling frequency 48KHz, 96 KHz and 192 KHz has word length of 16 bits, 20 bits and 24 bits), and (3), the first original audio being in a front channel (Lf, Rf) group having multiple channels, the second original audio signal being in a rear channel (Ls, Rs) group having multiple channels (e.g. column 15, lines 12-32, Fs, Qb and Mbr decides the number of channel, column 10,lines 37-41, Lchannel and R channel are considered to be the front and rear channels) the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group (e.g. see tables 18a-b and 19)

However, Heo et al fail to teach subjecting the quantization-resultant audio signal to a bit shift and the bit shift having a quantity common to the channels in the second channel group. Hoshi et al teach teach subjecting the quantization-resultant audio signal to a bit shift and the bit shift having a quantity common to the channels in the second channel group (e.g. column 8, lines

1-14). It would have been obvious to one ordinary skill in the art at the time the invention was

made to incorporate the teaching of Hoshi et al into the teaching of Heo et al to bit shift the

quantized digital data to reduce the amount of quantized data for storage efficiency and higher

data process speed.

Claim 42 is rejected for the same reasons as discussed in claim 40 above, wherein Heo et

al teach in column 35, lines 1-5 means for decoding the digital audio signal in the front channel

group and the rear channel group in respond to the first quantization word length and the first

sampling frequency, the second quantization word length and the second sampling frequency.

Claim 43 is rejected for the same reasons as discussed in claim 40 above, wherein Heo et

al teach in figure 18 "means for implementing digital-to-analog conversion of the decoding-

resultant audio signal to recover a corresponding analog audio signal (figure 18, device 317) and

a player for reproducing audio content from the digital signal recording medium of claim 40 (see

figures 16-18).

Conclusion

14.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Mishina (US 5,745,643).

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The
examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the
organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daquan Zhao/
Examiner, Art Unit 2621
Daquan Zhao

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621